



PERSONNEL QUALIFICATION STANDARD FOR

SMALL BOAT OPERATIONS

NAME (Rate/Rank) _____

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Although the words “he,” “him,” and “his” are used sparingly in this manual to enhance communication, they are not intended to be gender driven nor to affront or discriminate against anyone reading this material.

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INTRODUCTION

PQS PROGRAM

This PQS program is a qualification system for officers and enlisted personnel where certification of a minimum level of competency is required prior to qualifying to perform specific duties. A PQS is a compilation of the minimum knowledge and skills that an individual must demonstrate in order to qualify to stand watches or perform other specific routine duties necessary for the safety, security or proper operation of a ship, aircraft or support system. The objective of PQS is to standardize and facilitate these qualifications.

CANCELLATION

This Standard cancels and supersedes NAVEDTRA 43152-D.

APPLICABILITY

This PQS is applicable to all small boats.

TAILORING

To command tailor this package, first have it reviewed by one or more of your most qualified individuals. Delete any portions covering systems and equipment not installed on your ship, aircraft or unit. Next, add any line items, fundamentals, systems and watchstations/workstations that are unique to your command but not already covered in this package. Finally, the package should be reviewed by the cognizant department head and required changes approved by the Commanding Officer or his designated representative. Retain the approved master copy on file for use in tailoring individual packages.

QUALIFIER

The PQS Qualifier is designated in writing by the Commanding Officer to sign off individual watchstations. Qualifiers will normally be E-5 or above and, as a minimum, must have completed the PQS they are authorized to sign off. The names of designated Qualifiers should be made known to all members of the unit or department. The means of maintaining this listing is at the discretion of individual commands. For more information on the duties and responsibilities of PQS Qualifiers, see the PQS Management Guide.

INTRODUCTION (CONT'D)

CONTENTS

PQS is divided into three sections. The 100 Section (Fundamentals) contains the fundamental knowledge from technical manuals and other texts necessary to satisfactorily understand the watchstation/workstation duties. The 200 Section (Systems) is designed to acquaint you with the systems you will be required to operate at your watchstation/workstation. The 300 Section (Watchstations) lists the tasks you will be required to satisfactorily perform in order to achieve final PQS qualification for a particular watchstation/workstation. All three sections may not apply to this PQS, but where applicable, detailed explanations are provided at the front of each section.

REFERENCES

The references used during the writing of this PQS package were the latest available to the workshop, however, the most current references available should be used when qualifying with this Standard. Classified references may be used in the development of PQS. If such references are used, do not make notes in this book as answers to questions in this Standard may be classified.

TRAINEE

Your supervisor will tell you which watchstations/workstations you are to complete and in what order. Before getting started, turn to the 300 Section first and find your watchstation/workstation. This will tell you what you should do before starting your watchstation/workstation tasks. You may be required to complete another PQS, a school, or other watchstations/workstations within this package. It will also tell you which fundamentals and/or systems from this package you must complete prior to qualification at your watchstation/workstation. If you have any questions or are unable to locate references, contact your supervisor or qualifier. Good luck!

PQS FEEDBACK REPORTS

This PQS was developed using information available at the time of writing. When equipment and requirements change, the PQS needs to be revised. The only way the PQS Development Group knows of these changes is by you, the user, telling us either in a letter or via the Feedback Report contained in the back of this book. You can tell us of new systems and requirements, or of errors you find.

SUMMARY OF CHANGES

CHANGES TO FUNDAMENTALS, SYSTEMS, AND WATCHSTATIONS:

Fundamental Title	Action	Comment
Safety Precautions	Modified	Updated/added references, implemented additional fundamentals
Small Boat	Modified	Updated/added references, incorporated information from Anchoring and Rigid Hull Inflatable Boat (RHIB) Fundamentals
Rigid Hull Inflatable Boat (RHIB)	Deleted	Information incorporated into Fundamental 102
First Aid	Modified	Updated
Rules of the Road	Modified	Updated
Navigation	Modified	Updated/added reference
Boat Etiquette	Modified	Updated
Flags and Pennants	Modified	Incorporated radio communications and renamed 107 Communications, updated references
Diesel Engine	Modified	Updated/added references
Anchoring	Deleted	Information incorporated into Fundamental 102
Start-Up and Shutdown Procedures	Modified	Updated/added references, implemented basic engineering fundamentals for coxswain and boat officers
System Title	Action	Comment
Small Boat Structure	Modified	Updated references
Marine Propulsion Gear Assembly	Modified	Updated/added references, updated questions to improve qualification standards
Intake and Exhaust	Modified	Updated/added references, updated questions to improve qualification standards
Fuel Oil	Modified	Updated/added references, updated questions to improve qualification standards
Lube Oil	Modified	Updated/added references, updated questions to improve qualification standards

SUMMARY OF CHANGES (CONT'D)

System Title	Action	Comment
Jacket Water	Modified	Updated/added references, updated questions to improve qualification standards
Raw Water	Modified	Updated/added references, updated questions to improve qualification standards
Starting	Modified	Updated/added references, updated questions to improve qualification standards
Electrical	Modified	Updated/added references, updated questions to improve qualification standards
Instrument Panel and Steering	Modified	Updated/added references, updated questions to improve qualification standards
Drainage	Modified	Updated/added references, updated questions to improve qualification standards
 Watchstation Title	 Action	 Comment
Bow Hook and Stern Hook	Modified	Implemented color vision test as prerequisite, added additional qualification requirements
Small Boat Engineer	Modified	Added additional qualification requirements and tasks
Small Boat Coxswain/Rigid Hull Inflatable Boat (RHIB) Coxswain	Modified	Added prerequisites and additional qualification requirements
Small Boat Officer	Modified	Implemented color vision test as prerequisite, added additional qualification requirements

WATCHSTATION REQUALIFICATIONS

Due to significant changes in policies, systems, or procedures, it is recommended that all personnel dealing with the subject matter of this PQS requalify in the following watchstations regardless of qualifications achieved in previous versions.

None.

ACRONYMS USED IN THIS PQS

Not all acronyms or abbreviations used in this PQS are defined here. The Subject Matter Experts from the Fleet who wrote this Standard determined the following acronyms or abbreviations may not be commonly known throughout their community and should be defined to avoid confusion. If there is a question concerning an acronym or abbreviation not spelled out on this page nor anywhere else in the Standard, use the references listed on the line item containing the acronym or abbreviation in question.

IALA	International Association of Lighthouse Authorities
ORM	Operational Risk Management
RHIB	Rigid Hull Inflatable Boat

100 INTRODUCTION TO FUNDAMENTALS

100.1 INTRODUCTION

This PQS begins with a Fundamentals section covering the basic knowledge and principles needed to understand the equipment or duties to be studied. Normally, you would have acquired the knowledge required in the Fundamentals section during the school phase of your training. If you have not been to school or if you need a refresher, the references listed at the beginning of each fundamental will aid you in a self-study program. All references cited for study are selected according to their credibility and availability.

100.2 HOW TO COMPLETE

The fundamentals you will have to complete are listed in the watchstation (300 section) for each watchstation. You should complete all required fundamentals before starting the systems and watchstation portions of this PQS, since knowledge gained from fundamentals will aid you in understanding the systems and your watchstation tasks. When you feel you have a complete understanding of one fundamental or more, contact your Qualifier. If you are attempting initial qualification, your Qualifier will expect you to satisfactorily answer all line items in the fundamentals before signing off completion of that fundamental. If you are requalifying or have completed the appropriate schools, your Qualifier may require you to answer representative line items to determine if you have retained the necessary knowledge for your watchstation. If your command requires an oral board or written examination for final qualification, you may be asked any questions from the fundamentals required for your watchstation.

101 SAFETY PRECAUTIONS FUNDAMENTALS

References:

- [a] OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
 - [b] NAVEDTRA 12100, Boatswain's Mate
 - [c] OPNAVINST 3120.32C, Ships Standard Organization and Regulations Manual of the U. S. Navy (SORM)
 - [d] NSTM S9086-CL-STM-010/CH-077, Personnel Protection Equipment
 - [e] Manufacturer's Technical Manual
 - [f] NSTM S9086-TX-STM-010/CH-583, Boats and Small Craft
 - [g] OPNAVINST 3500.39, Operational Risk Management
-

101.1 Discuss the concept of ORM. [ref. g]

(Signature and Date)

.2 Explain the following terms as they apply to ORM: [ref. g]

- a. Identify hazards
- b. Assess hazards
- c. Make risk decisions
- d. Implement controls
- e. Supervise

(Signature and Date)

.3 Discuss the safety precautions to be observed during boat operations in regard to weather, sea conditions, and hazards to navigation. [ref. a, ch. C4]

(Signature and Date)

.4 Discuss the safety precautions to be observed while fueling a vessel from a fuel dock, fuel barge, and ship at anchor. [ref. a, ch. C4; ref. b, ch. 5]

(Signature and Date)

DRAFT

101 SAFETY PRECAUTIONS FUNDAMENTALS (CONT'D)

101.5 Discuss the procedures involved in recovering a person from the water. [ref. b, ch. 5]

(Signature and Date)

.6 Discuss how the following affect safety:

- a. Operating vessel without proper authority and qualification [ref. a, ch. C4]
- b. Failing to secure for unexpected movement [ref. a, ch. C4]
- c. Operating at unsafe speed [ref. a, ch. C4]
- d. Removing or making safety devices inoperable [ref. a, ch. C1]
- e. Using defective tools or equipment [ref. a, ch. C1]
- f. Unsafe use of tools [ref. a, ch. C1]
- g. Working on moving, energized, or otherwise hazardous equipment [ref. a, ch. 1]
- h. Skylarking [ref. a, ch. C1]
- i. Failing to wear personal protective equipment [ref. a, ch. B12]
- j. Posting a bow lookout [ref. b, ch. 6]
- k. Bad weather [ref. a, ch. C16]
- l. Frayed or worn lines [ref. a, ch. 5]
- m. Improper line handling [ref. a, ch. 5]

(Signature and Date)

.7 Discuss the proper use of portable firefighting equipment for your boat.
[ref. b, ch. 11]

(Signature and Date)

.8 Explain the following in terms of electrical safety: [ref. a, ch. C9]

- a. The hazard of electricity
- b. How to prevent electrical shock
- c. The use of shorting probes and procedures for discharging deenergized circuits
- d. The purpose and operation of interlocks in/on electrical equipment
- e. The use of danger/caution tags and tagging of open switches
- f. The reason for never working alone on energized equipment
- g. The purpose and operation of circuit breakers
- h. The procedure and requirements of the maintenance of electrical equipment
- i. The procedure for removing a victim from energized equipment
- j. The proper treatment for electrical shock

(Signature and Date)

DRAFT

101 SAFETY PRECAUTIONS FUNDAMENTALS (CONT'D)

- 101.9 Discuss safety precautions to be observed when hoisting and lowering a boat.
[ref. b, ch. 5]

(Signature and Date)

- .10 State the safety precautions to be observed when working on or around machinery.
[ref. a, ch. C13]

(Signature and Date)

- .11 State the requirements for wearing inherently buoyant life preserver vest type with collar, MK1 and MK5 auto inflatable life vest. [ref. d, ch. 2]

(Signature and Date)

- .12 Discuss the safe working load of the davit assigned to your boat. [ref. c]

(Signature and Date)

- .13 State the weight of your boat. [ref. c]

(Signature and Date)

- .14 Explain how the design and testing of all components related to hoisting are based on the designed hoisting weight of your boat. [ref. f, ch. 7]

(Signature and Date)

- .15 State the passenger and cargo capacity of your boat. [ref. c]

(Signature and Date)

- .16 State the use of preoperational check-off lists prior to getting underway. [ref. c]

(Signature and Date)

- .17 State the purpose and use of the emergency shutdown/kill switch. [ref. e]

(Signature and Date)

102 SMALL BOAT/RIGID HULL INFLATABLE BOAT (RHIB) FUNDAMENTALS

References:

- [a] NAVEDTRA 12100, Boatswain's Mate
 - [b] Boat Information Book (BIB)
 - [c] NSTM S9086-TX-STM-010/CH-583, Boats and Small Craft
 - [d] NWP 3-50.1 (Rev. A), Naval Search and Rescue (SAR) Manual
 - [e] Ship's Information Book (SIB)
 - [f] Marine Rescue Consultants RHIB Operations Reference Manual
-

102.1 Discuss the basic characteristics of small boats at your command. [ref. b]

(Signature and Date)

.2 Discuss your ship's lowering and hoisting capability. [ref. e]

(Signature and Date)

.3 State the basic responsibilities for the following: [ref. a, ch. 6]

- a. Boat officer
- b. Coxswain
- c. Bow/stern hook
- d. Boat engineer

(Signature and Date)

.4 Explain the use of the following: [ref. a]

- a. Sea painter [ch. 5]
- b. Bow/stern lines [ch. 5]
- c. Steadying lines [ch. 5]
- d. Manropes (monkey lines) [ch. 5]
- e. Guess-warp [ch. 6]
- f. Boat hook [ch. 5]
- g. Grapnel [ch. 5]
- h. Towing bridle/lines [ch. 4]
- i. Fenders [ch. 5]
- j. Life ring [ch. 5]
- k. Boarding ladder [ch. 5]
- l. Hand bilge pump [ch. 5]

DRAFT

102 SMALL BOAT/RIGID HULL INFLATABLE BOAT (RHIB) FUNDAMENTALS (CONT'D)

- 102.4
- m. Emergency tiller [ch. 5]
 - n. Compass [ch. 5]
 - o. Compass light [ch. 5]
 - p. Anchor [ch. 5]

(Signature and Date)

- .5 Discuss heavy weather hoisting/lowering/securing of small boats. [ref. a, ch. 5]

(Signature and Date)

- .6 State the purpose of maintaining a compass log. [ref. a, ch. 6]

(Signature and Date)

- .7 Discuss the effect and typical situations of the following on small boats: [ref. a, ch. 6]

- a. Side force
- b. Frictional wake current
- c. Screw current
- d. Boat and screw going ahead
- e. Boat and screw backing
- f. Boat going astern, screw ahead
- g. Boat going ahead, screw backing

(Signature and Date)

- .8 Discuss the following maneuvering situations: [ref. a, ch. 6]

- a. Port side to landing and getting underway
- b. Starboard side to landing and getting underway

(Signature and Date)

- .9 Discuss the procedures for securing a boat to a boat boom. [ref. a, ch. 6]

(Signature and Date)

DRAFT

102 SMALL BOAT/RIGID HULL INFLATABLE BOAT (RHIB) FUNDAMENTALS (CONT'D)

102.10 Discuss the function of the anchor. [ref. a, ch. 4]

(Signature and Date)

.11 Define the following: [ref. a, ch. 4]

- a. Stock
- b. Flukes
- c. Chaffing chain
- d. Shank
- e. Fathom

(Signature and Date)

.12 State the precautions that must be observed when anchoring an RHIB. [ref. b]

(Signature and Date)

.13 Define and discuss the following handling characteristics for the RHIB: [ref. f]

- a. Planing speed
- b. Pivot turns
- c. Prevention of tripping
- d. Prevention of becoming airborne

(Signature and Date)

.14 Discuss where you would get a complete list of boat equipment. [ref. c, sec. 2]

(Signature and Date)

.15 Discuss the duties of each member of the rescue boat crew. [ref. d, ch. 6]

(Signature and Date)

.16 State the purpose of all required rescue boat equipment other than standard boat equipment. [ref. d, ch. 5]

(Signature and Date)

DRAFT

102 SMALL BOAT/RIGID HULL INFLATABLE BOAT (RHIB) FUNDAMENTALS (CONT'D)

102.17 Discuss helicopter and boat coordinated rescue procedures. [ref. d, ch. 6]

(Signature and Date)

.18 Discuss procedures to be followed when approaching and recovering a survivor in the water: [ref. d, ch. 6]

- a. Pilot rescue
- b. Conscious/unconscious victim

(Signature and Date)

103 FIRST AID FUNDAMENTALS

Reference:

[a] NAVEDTRA 13119, Standard First Aid Course

103.1 Define first aid. [ch. 1]

(Signature and Date)

.2 State three objectives of first aid. [ch. 1]

(Signature and Date)

.3 State the primary tasks of first aid. [ch. 1]

(Signature and Date)

.4 State the general first aid rule. [ch. 1]

(Signature and Date)

.5 Discuss the principles involved in dressing wounds in the following areas: [ch. 5]

- a. Head
- b. Facial
- c. Abdominal
- d. Chest
- e. Eyes
- f. Legs and arms

(Signature and Date)

.6 Discuss the position of pressure points on the body. [ch. 3]

(Signature and Date)

.7 Discuss the two types of fractures. [ch. 6]

(Signature and Date)

DRAFT

103 FIRST AID FUNDAMENTALS (CONT'D)

103.8 Explain how to immobilize a fracture. [ch. 6]

(Signature and Date)

.9 Discuss how to bandage fractured ribs. [ch. 6]

(Signature and Date)

.10 Discuss the care given when a back injury is suspected. [ch. 6]

(Signature and Date)

.11 Define shock as applied to personal injuries. [ch. 4]

(Signature and Date)

.12 State the most common cause of shock. [ch. 4]

(Signature and Date)

.13 Discuss the symptoms of shock. [ch. 4]

(Signature and Date)

.14 Discuss the first aid treatment for victims of electrical shock. [ch. 10]

(Signature and Date)

.15 Define respiratory failure. [ch. 2]

(Signature and Date)

DRAFT

103 FIRST AID FUNDAMENTALS (CONT'D)

103.16 State the reason for immediate treatment of respiratory failure. [ch. 2]

(Signature and Date)

.17 Discuss the procedures of mouth-to-mouth resuscitation. [ch. 2]

(Signature and Date)

104 RULES OF THE ROAD FUNDAMENTALS

Reference:

[a] COMDTINST M16672.2C, Navigation Rules-International Inland

104.1 Define the following terms:

- a. Vessel [rule 3]
- b. Power-driven vessel [rule 3]
- c. Sailing vessel [rule 3]
- d. Underway [rule 3]
- e. U.S. inland waters [rule 3]
- f. International waters [rule 3]
- g. Restricted visibility [rule 3]
- h. Safe speed [rule 6]
- i. Risk of collision [rule 7]
- j. Distress signals [rule 37]
- k. Give-way vessel [rule 16]
- l. Stand-on vessel [rule 17]
- m. Head-on (meeting) situation [rule 14]
- n. Crossing situation [rule 15]
- o. Overtaking situation [rule 13]
- p. Prolonged/short blast [rule 32]
- q. Vessel constrained by draft [rule 3]
- r. Vessel restricted in ability to maneuver [rule 3]
- s. Not under command [rule 3]
- t. Vessel engaged in fishing/trawling [rule 3]

(Signature and Date)

.2 Discuss the arc of visibility, range of visibility, and color of the following lights:

- a. Forward masthead [rules 21, 22]
- b. Aft masthead [rules 21, 22]
- c. Port running light [rules 21, 22]
- d. Starboard running light [rules 21, 22]
- e. Stern [rules 21, 22]
- f. All-around lights [rule 22]

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104 RULES OF THE ROAD FUNDAMENTALS (CONT'D)

- 104.2
- g. Flashing light [rule 21]
 - h. Special flashing light [rules 21, 22]
 - i. Submarine flashing beacon [rule 1]
 - j. Towing light [rule 21]

(Signature and Date)

- .3 Discuss the sound and light signals required during restricted visibility: [rule 35]

- a. Power-driven vessel underway
 - 1. Way on
 - 2. No way on
- b. Sailing vessel underway
- c. Power-driven vessel towing
- d. Vessel constrained by draft
- e. Vessel restricted in ability to maneuver
- f. Vessel engaged in fishing/trawling
- g. Vessel not under command
- h. Vessel at anchor
 - 1. 100 meters or longer
 - 2. Less than 100 meters
- i. Vessel aground

(Signature and Date)

- .4 Explain the following whistle signals used by a vessel in international waters: [rule 34]

- a. One short
- b. Two short
- c. Three short
- d. Five or more short
- e. Two prolonged, one short
- f. Two prolonged, two short
- g. One prolonged, one short, one prolonged, one short

(Signature and Date)

DRAFT

104 RULES OF THE ROAD FUNDAMENTALS (CONT'D)

104.5 Explain the following whistle signals used by a boat in inland waters: [rule 34]

- a. Head-on (meeting) situation
 - 1. One short
 - 2. Two short
- b. Overtaking situation
 - 1. One short
 - 2. Two short
- c. Crossing
 - 1. One short
 - 2. Two short
- d. Three short
- e. Five or more short

(Signature and Date)

.6 Discuss a situation requiring one prolonged blast. [rule 34]

(Signature and Date)

.7 Explain the color and arrangement of lights used in international/inland waters during the following conditions:

- a. Power-driven vessel more than 50 meters long underway [rule 23]
- b. Power-driven vessel pushing or towing vessel (with length of tow less than 200 meters) [rule 24]
- c. Power-driven vessel pushing or towing vessel (with length of tow more than 200 meters) [rule 24]
- d. Power-driven pilot boat engaged in pilotage duty and underway [rule 29]
- e. Vessel at anchor or aground less than 50 meters [rule 30]
- f. Vessel at anchor or aground more than 50 meters but less than 100 meters [rule 30]
- g. Vessel engaged in fishing [rule 26]
- h. Vessel engaged in trawling [rule 26]
- i. Power-driven vessel engaged in minesweeping operations [rule 27]
- j. Sailing vessel underway [rule 23]
- k. Vessel constrained by draft [rule 28]
- l. Vessel not under command [rule 27]
- m. Vessel restricted in its ability to maneuver [rule 27]

(Signature and Date)

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104 RULES OF THE ROAD FUNDAMENTALS (CONT'D)

104.8 State the appropriate day shape used for the following:

- a. Restricted maneuverability [rule 27]
- b. At anchor [rules 29, 30]
- c. Aground [rule 30]
- d. Not under command [rule 27]
- e. Towing [rule 24]
- f. Fishing or trawling [rule 26]
- g. Sailing vessel under sail with power on [rule 25]
- h. Underwater operations [rule 27]
- i. Mine clearance vessel [rule 27]
- j. Vessel constrained by draft [rule 28]

(Signature and Date)

.9 Explain in the following situations, which vessel is give-way, which vessel is stand-on, and action required of both vessels to pass safely:

- a. Head-on situation [rule 14]
- b. Crossing situation [rule 15]
- c. Overtaking situation [rule 13]

(Signature and Date)

.10 Discuss responsibilities between vessels with regard to keeping out of the way of one another. [rule 8]

(Signature and Date)

.11 Explain the rule of good seamanship. [rule 2]

(Signature and Date)

.12 Discuss action taken to avoid collision. [rule 8]

(Signature and Date)

105 NAVIGATION FUNDAMENTALS

Reference:

- [a] NAVEDTRA 12120, Quartermaster
 - [b] NAVEDTRA 12016, Seaman
 - [c] United States of America Nautical Chart Symbols Abbreviations and Terms, Chart No.1
 - [d] Dutton's Navigation and Piloting, 14th Edition
-

105.1 Describe the following chart symbols: [ref. c]

- a. Buoys [ch. q]
- b. Obstructions [ch. k]
- c. Shoals [ch. k]
- d. Depth contour lines [ch. i]
- e. Compass rose [ch. b]

(Signature and Date)

.2 Describe the five basic buoy shapes. [ref. b, ch. 5]

(Signature and Date)

.3 Describe the following buoys and discuss their purpose: [ref. b, ch. 5]

- a. Lateral marks
- b. Special purpose
- c. Preferred channel
- d. Cardinal
- e. Safe water
- f. Daymarkers

(Signature and Date)

.4 Identify the two IALA buoyage systems and regions covered, and state the significant differences. [ref. b, ch. 5]

(Signature and Date)

.5 Discuss where tide and current information should be obtained. [ref. a, ch. 7]

(Signature and Date)

DRAFT

105 NAVIGATION FUNDAMENTALS (CONT'D)

105.6 Define the following terms: [ref. d]

- a. Tide [ch. 9]
- b. Mean lower low water [ch. 9]
- c. Flood current [ch. 10]
- d. Ebb current [ch. 10]
- e. Tidal current [ch. 10]
- f. Slack water [ch. 10]
- g. Set/drift [ch. 12]

(Signature and Date)

.7 Describe range markers and discuss how they are used in navigating narrow channels. [ref. a, ch. 4]

(Signature and Date)

.8 Discuss how to convert a course to a true/compass course. [ref. b, ch. 5]

(Signature and Date)

.9 Define deviation and variation and discuss their effect on a magnetic compass. [ref. b, ch. 5]

(Signature and Date)

.10 Discuss the purpose and location of a deviation table. [ref. b, ch. 5]

(Signature and Date)

106 BOAT ETIQUETTE FUNDAMENTALS

References:

- [a] NAVEDTRA 12016, Seaman
 - [b] NAVEDTRA 12104-A, Signalman
 - [c] NSTM S9086-TX-STM-010/CH-583, Boats and Small Craft
-

- 106.1 Discuss rendering/receiving passing honors for officers/officials embarked in boats.
[ref. a, ch. 5]

(Signature and Date)

- .2 State the conditions which warrant the dipping of the national ensign.
[ref. b, ch.10]

(Signature and Date)

- .3 Discuss boat hails used during daylight and night hours. [ref. a, ch. 5]

(Signature and Date)

- .4 Discuss the proper procedures for embarking/debarking officers and enlisted personnel in small boats. [ref. a, ch. 5]

(Signature and Date)

- .5 Discuss passing honors between naval vessels. [ref. b, ch. 10]

(Signature and Date)

DRAFT

106 BOAT ETIQUETTE FUNDAMENTALS (CONT'D)

106.6 State the rank of an officer embarked in a small boat using the following flag staff insignias: [ref. a, ch. 5]

- a. Spread eagle
- b. Halberd
- c. Ball
- d. Star
- e. Flat truck

(Signature and Date)

.7 Discuss small boat recognition methods including color schemes and boat types for the following: [ref. c, ch. 8]

- a. Flag Officer's barge
- b. Unit Commander's gig
- c. Commanding Officer's gig
- d. Other ships' boats

(Signature and Date)

107 COMMUNICATIONS FUNDAMENTALS

References:

- [a] NAVEDTRA 12100, Boatswain's Mate
 - [b] NAVEDTRA 12104-A, Signalman
-

107.1 Identify and discuss the meaning and location of the following substitutes in-port and underway: [ref. a, ch. 7]

- a. First sub
- b. Second sub
- c. Third sub
- d. Fourth sub

(Signature and Date)

.2 Identify and discuss the meaning of the following emergency flags: [ref. a, ch. 7]

- a. Oscar
- b. Five
- c. November Charlie

(Signature and Date)

.3 Identify and discuss the following warning flags: [ref. a, ch. 7]

- a. Code Alfa
- b. Bravo
- c. Kilo
- d. Lima
- e. Hotel
- f. Code Hotel

(Signature and Date)

DRAFT

107 COMMUNICATIONS FUNDAMENTALS (CONT'D)

107.4 Identify and discuss the following information flags: [ref. a]

- a. Mike [ch. 7]
- b. India [ch. 7]
- c. Papa [ch. 7]
- d. Quebec [ch. 7]
- e. Zero [ch. 13]
- f. Uniform [ch. 7]

(Signature and Date)

.5 Discuss signals and methods for boat recall. [ref. a, ch. 7]

(Signature and Date)

.6 Discuss day and night rescue lifeboat signals from: [ref. a, ch. 6]

- a. Ship to boat
- b. Boat to ship

(Signature and Date)

.7 State the day and night storm warning signals. [ref. a, ch. 7]

(Signature and Date)

.8 Discuss the following communication procedures: [ref. a, ch. 7; ref. b, ch. 4]

- a. Call signs
- b. Operation
- c. Radio communication etiquette
- d. Emergency channel

(Signature and Date)

108 DIESEL ENGINE FUNDAMENTALS

References:

- [a] NAVEDTRA 10539, Engineman 3
[b] Manufacturer's Technical Manual
-

108.1 State the use of each of the following:

- a. Blower [ref. a, ch. 6]
- b. Turbocharger [ref. a, ch. 6]
- c. Intercooler/aftercooler [ref. a, ch. 7]
- d. Heat exchanger [ref. a, ch. 7]
- e. Jacket water pump [ref. a, ch. 7]
- f. Raw water pump [ref. a, ch. 7]
- g. Fuel injector [ref. a, ch. 9]
- h. Fuel pump [ref. a, ch. 9]
- i. Fuel water separator [ref. a, ch. 9]
- j. Camshaft [ref. a, ch. 4]
- k. Crankshaft [ref. a, ch. 4]
- l. Flywheel [ref. a, ch. 4]
- m. Valve actuating mechanism [ref. a, ch. 4]
- n. Pistons [ref. a, ch. 4]
- o. Cylinder liner [ref. a, ch. 3]
- p. Cylinder head [ref. a, ch. 3]
- q. Intake/exhaust valves [ref. a, ch. 6]
- r. Valve cover [ref. a, ch. 6]
- s. Expansion tank [ref. b]
- t. Alternator [ref. b]

(Signature and Date)

.2 State the function of each of the following: [ref. a]

- a. Gages/thermometer [ch. 10]
- b. Governor [ch. 9]
- c. Blower shutdown [ch. 6]
- d. Remote fuel shutdown [ch. 11]
- e. Filter/strainer [ch. 8]

(Signature and Date)

DRAFT

108 DIESEL ENGINE FUNDAMENTALS (CONT'D)

108.3 State the proper liquid level in the following:

- a. Oil sump [ref. a, ch. 8]
- b. Expansion tank [ref. a, ch. 7]
- c. Fuel tank [ref. b]
- d. Transmission [ref. b]
- e. Outdrive [ref. b]
- f. Steering oil level [ref. b]

(Signature and Date)

.4 Discuss the principles of fuel injection in terms of the following: [ref. a, ch. 9]

- a. Metering of fuel
- b. Timing of fuel injection
- c. Rate of fuel
- d. Atomization of fuel
- e. Pressurization and distribution of fuel

(Signature and Date)

.5 Define the following: [ref. a, ch. 2]

- a. 2-cycle engine
- b. 4-cycle engine

(Signature and Date)

.6 Describe the physical construction, function, and application of the following diesel engine components: [ref. a]

- a. Crankshaft [ch. 4]
- b. Camshaft [ch. 4]
- c. Piston [ch. 4]
- d. Cylinder liner [ch. 3]
- e. Intake/exhaust valves/ports [ch. 5]
- f. Engine block [ch. 3]
- g. Cylinder head [ch. 3]
- h. Fuel injectors [ch. 9]
- i. Crankshaft vibration damper [ch. 4]
- j. Connecting rods [ch. 4]
- k. Expansion tank [ch. 7]

(Signature and Date)

DRAFT

108 DIESEL ENGINE FUNDAMENTALS (CONT'D)

108.7 Define the following terms as used in engineering: [ref. a]

- a. Intake [ch. 2]
- b. Exhaust [ch. 2]
- c. Compression [ch. 2]
- d. Combustion [ch. 2]
- e. Timing mechanism [ch. 5]
- f. Scavenging air [ch. 6]
- g. Turbocharger [ch. 6]
- h. Viscosity [ch. 8]
- i. Piston stroke [ch. 2]
- j. Displacement [ch. 2]
- k. Compression ratio [ch. 2]
- l. Bore [ch. 2]

(Signature and Date)

.8 Discuss the use of the following: [ref. a]

- a. F-44 (JP-5) [ch. 9]
- b. F-76 (DFM) [ch. 9]
- c. Lube oil [ch. 8]
- d. Grease [ch. 8]
- e. Zinc [ch. 7]
- f. Nalcool [ch. 7]
- g. Ethylene glycol [ch. 7]

(Signature and Date)

.9 Discuss the corrective action that must be taken for the following: [ref. b]

- a. Loss of lube oil pressure
- b. High jacket water temperature
- c. Loss of raw water
- d. Loss of fuel pressure
- e. Insufficient air intake
- f. High lube oil temperature
- g. Leaking exhaust
- h. Loss of jacket water
- i. Loss of steering

(Signature and Date)

109 START-UP AND SHUTDOWN FUNDAMENTALS

References:

[a] Boat Information Book (BIB)

109.1 Discuss preoperational procedures.

(Signature and Date)

.2 State the liquid levels for the following:

- a. Oil sump
- b. Expansion tank
- c. Fuel tank
- d. Transmission
- e. Steering fluid

(Signature and Date)

.3 Discuss start-up procedures.

(Signature and Date)

.4 Discuss shutdown procedures.

(Signature and Date)

.5 State the normal operating ranges for the following:

- a. Engine oil pressure
- b. Jacket water temperature
- c. Tachometer
- d. Voltmeter

(Signature and Date)

DRAFT

109 START-UP AND SHUTDOWN FUNDAMENTALS (CONT'D)

109.6 Discuss the following emergency procedures:

- a. Overspeed engine
- b. Loss of steering
- c. Loss of throttle
- d. Loss of lube oil pressure
- e. Overheating

(Signature and Date)

.7 Discuss emergency shutdown procedures.

(Signature and Date)

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200 INTRODUCTION TO SYSTEMS

200.1 BASIC BUILDING BLOCKS

In this section, the equipment is broken down into smaller, more comprehensible, functional systems as basic building blocks in the learning process. Each system is written to reflect specific watchstation requirements by identifying the equipment most relevant to one or more designated watchstanders. The less complex systems may be identified and covered quickly or relegated to a lower priority to permit greater emphasis on more significant or complex systems.

200.2 COMPONENTS AND COMPONENT PARTS

For learning purposes each system is disassembled into two levels. Systems have components and components have parts. Do not expect to see every item which appears on a parts list to be in the PQS. Only those items which must be understood for operation/maintenance are listed. Normally a number of very broad (overview) systems are disassembled into their components or parts with the big picture as the learning goal. Items listed as components in such a system may then be analyzed as separate systems and broken down into components and parts. Example: the turbogenerators may be listed as a component of the Ship's Service Electrical Distribution system and then later detailed as an individual system for closer study.

200.3 FORMAT

Each system is organized within the following format:

- It lists the references to be used for study and asks you to explain the function of each system.
- It asks for the static facts of what or where the components and component parts are in relation to the system.
- It directs attention to the dynamics of how the component and component parts operate to make the system function.
- It specifies the parameters that must be immediately recalled.
- It requires study of the relationship between the system being studied and other systems or areas.

200.4 HOW TO COMPLETE

The systems you must complete are listed in the Prerequisites section of each watchstation. When you have mastered one or more systems, contact your Qualifier. The Qualifier will give you an oral examination on each system and, if satisfied you have sufficient knowledge of the system, will sign the appropriate system line items. You will be expected to demonstrate through oral or written examination a thorough understanding of each system required for your watchstation.

201 SMALL BOAT STRUCTURE SYSTEM

References:

- [a] NAVEDTRA 12043, Basic Military Requirements (BMR)
 - [b] NAVEDTRA 12016, Seaman
 - [c] NAVEDTRA 12100, Boatswain's Mate
 - [d] NSTM S9086-TX-STM-010/CH-583, Boats and Small Craft
 - [e] Boat Information Book (BIB)
-

201.1.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the modes of operation or control?

Questions

- | | | |
|---------|--|---------|
| 201.2.1 | Hull [ref. a, Glossary] | A |
| a. | Free board [ref. a, Glossary] | A B |
| b. | Draft [ref. a, Glossary] | A |
| c. | Towing eye tie down [ref. a, ch. 6] | A B |
| d. | Keel [ref. a, Glossary] | A B |
| e. | Strut [ref. c, Glossary] | A B |
| f. | Stem [ref. a, Glossary] | A B |
| g. | Through-hull fitting [ref. d, sec. 7] | A B |
| h. | Transom [ref. c, ch. 6] | A B |
| i. | Sponsons/sponsons attachment [ref. e] | A B |
| .2 | Rudder [ref. a, Glossary] | A B C D |
| .3 | Outdrives [ref. e] | A B C D |
| .4 | Flagstaff [ref. a, Glossary] | A B |
| .5 | Jack staff (navigation light) [ref. d, sec. 7] | A B C |
| .6 | Hoisting sling [ref. d, sec. 7] | A B |
| .7 | Handrails/taffrails [ref. d, sec. 8] | A B |
| .8 | Chocks (open/closed/roller) [ref. a, Glossary] | A B |
| .9 | Sampson post [ref. c, Glossary] | A B |

(Signature and Date)

DRAFT

201 SMALL BOAT STRUCTURE SYSTEM (CONT'D)

201.2 PRINCIPLES OF OPERATION

201.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 5]

(Signature and Date)

201.3 PARAMETERS/OPERATING LIMITS – None to be discussed.

201.4 SYSTEM INTERFACE

201.4.1 How do the following outside influences affect the operation of this system:
[ref. b, ch. 5]

- a. Sea state
- b. Weather

(Signature and Date)

201.5 SAFETY PRECAUTIONS

201.5.1 What safety precautions must be observed when operating this system? [ref. c, ch. 6]

(Signature and Date)

202 MARINE PROPULSION GEAR ASSEMBLY SYSTEM

References:

- [a] NAVEDTRA 10539, Engineman 3
 - [b] Boat Information Book (BIB)
 - [c] Manufacturer's Technical Manual
 - [d] OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
-

202.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the modes of operation or control?
- E. What are the safety/protective devices for this component/component part?
- F. What protection is provided by this component/component part?
- G. What are the probable indications if this component fails?
- H. What is the effect on system operation if this component fails?
- I. What is the source of control signals?
- J. What is the function of each position?

Questions

- | | | |
|---------|--|-----------------|
| 202.1.1 | Marine reduction gear [ref. a, ch. 12] | A B C D E G H J |
| .2 | Control mechanism [ref. b] | A B D E F G H J |
| .3 | Oil cooler [ref. b] | A B F G H |
| .4 | Oil filter [ref. c] | A B F G H |
| .5 | Oil pressure gage [ref. c] | A B C F G H I |
| .6 | Oil dipstick [ref. c] | A B F |
| .7 | Flexible tubing/hose [ref. b] | A B G H |
| .8 | Come home feature [ref. c] | A B D |
| .9 | Shaft [ref. b] | A B C E G H |
| .10 | Propeller [ref. b] | A B C D G H |

(Signature and Date)

DRAFT

202 MARINE PROPULSION GEAR ASSEMBLY SYSTEM (CONT'D)

202.2 PRINCIPLES OF OPERATION

- 202.2.1 How do the components work together to achieve the system's function? [ref. a, ch. 12]
- .2 What indications will you receive if the system is malfunctioning? [ref. a, ch. 12]

(Signature and Date)

202.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. b]

- A. What are the allowable operating limits?
B. Where are the parameters sensed or monitored?
C. What is the physical location of the indicators?

- 202.3.1 Oil pressure
.2 Oil temperature

Questions

A B C
A B C

(Signature and Date)

202.4 SYSTEM INTERFACE

- 202.4.1 How do the following outside influences affect the operation of this system: [ref. b]
- a. Towing another vehicle
b. Objects floating in water
c. Loss of shaft/propeller
d. High bilge level
- .2 How does this system interface with the following: [ref. a, ch. 14]
- a. Freshwater Cooling system
b. Main Propulsion Diesel Engine system

(Signature and Date)

202.5 SAFETY PRECAUTIONS

- 202.5.1 What safety precautions must be observed when operating this system? [ref. d, ch. C13]

(Signature and Date)

203 INTAKE AND EXHAUST SYSTEM

References:

- [a] NAVEDTRA 10539, Engineman 3
 - [b] OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
 - [c] Manufacturer's Technical Manual
-

203.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What protection is provided by this component/component part?
- E. What are the probable indications if this component fails?
- F. What is the effect on system operation if this component fails?
- G. What is the function of each position?

Questions

- | | | |
|---------|---|-----------|
| 203.1.1 | Intake and Exhaust system [ref. c] | A |
| 2. | Air silencer/filter [ref. a, ch. 6] | A B D E F |
| .3 | Blower/turbocharger [ref. a, ch. 6] | A B C E F |
| .4 | Intake manifold/air box [ref. a, ch. 6] | A B E F |
| .5 | Intake/exhaust valves/ports [ref. a, ch. 6] | A B E F G |
| .6 | Cylinder head [ref. a, ch. 3] | A B E F |
| .7 | Exhaust manifold [ref. a, ch. 6] | A B E F |
| .8 | Exhaust muffler [ref. c] | A B D |

(Signature and Date)

203.2 PRINCIPLES OF OPERATION

- 203.2.1 How do the components work together to achieve the system's function? [ref. a, ch. 6]
- .2 Draw a diagram of this system. [ref. a, ch. 6]
- .3 What indications will you receive if the system is malfunctioning? [ref. a, ch. 6]

(Signature and Date)

DRAFT

203 INTAKE AND EXHAUST SYSTEM (CONT'D)

203.3 PARAMETERS/OPERATING LIMITS – None to be discussed.

203.4 SYSTEM INTERFACE

203.4.1 How does this system interface with the following: [ref. a, ch. 6]

- a. Fuel Injection system
- b. Raw water exhausted/cooling

(Signature and Date)

203.5 SAFETY PRECAUTIONS

203.5.1 What safety precautions must be observed when operating this system?
[ref. b, ch. C4]

(Signature and Date)

204 FUEL OIL SYSTEM

References:

- [a] NAVEDTRA 10539, Engineman 3
 - [b] Boat Information Book (BIB)
 - [c] OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
 - [d] Manufacturer's Technical Manual
-

204.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the modes of operation or control?
- E. What protection is provided by this component/component part?
- F. What are the probable indications if this component fails?
- G. What is the effect on system operation if this component fails?
- H. What is the function of each position?

- 204.1.1 Fuel Oil system [ref. a, ch. 10; ref. d]
- .2 Service tank [ref. b]
- .3 Lift pump [ref. d]
- .4 Filters/strainers [ref. a, ch. 9]
- .5 Fuel oil/water separator [ref. a, ch. 9]
- .6 Hoses [ref. d]
- .7 Shutoff valves (supply/return) [ref. b]
- .8 Injectors/nozzles [ref. a, ch. 9]
- .9 Fuel injection pump [ref. a, ch. 9]
- .10 Restrictor fitting [ref. a, ch. 9; ref. b]

Questions

- A
- AB
- ABCFG
- ABEFG
- ABEFG
- ABFG
- ABEFGH
- ABCD FG
- ABCD FG
- ABFG

(Signature and Date)

DRAFT

204 FUEL OIL SYSTEM (CONT'D)

204.2 PRINCIPLES OF OPERATION

- 204.2.1 How do the components work together to achieve the system's function?
[ref. a, ch. 9]
- .2 Draw a diagram of this system. [ref. a, ch. 9]
- .3 What is the sequence of component involvement to: [ref. d]
- a. Light off
 - b. Operate
 - c. Shut down
- .4 What indications will you receive if the system is malfunctioning? [ref. a, ch. 9]

(Signature and Date)

204.3 PARAMETERS/OPERATING LIMITS – None to be discussed.

204.4 SYSTEM INTERFACE

- 204.4.1 How does the cold weather affect the operation of this system? [ref. b]
- .2 How does the main propulsion diesel engine interface with this system? [ref. a, ch. 9]

(Signature and Date)

204.5 SAFETY PRECAUTIONS

- 204.5.1 What special safety precautions apply to the stripping of tanks/filters/strainers?
[ref. c, ch. 10]
- .2 What safety precautions must be observed during: [ref. c, ch. 10]
- a. Operation of the system
 - b. Refueling

(Signature and Date)

205 LUBE OIL SYSTEM

References:

- [a] NAVEDTRA 10539, Engineman 3
 - [b] OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
 - [c] Manufacturer's Technical Manual
-

205.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the safety/protective devices for this component/component part?
- E. What protection is provided by this component/component part?
- F. What are the probable indications if this component fails?
- G. What is the effect on system operation if this component fails?
- H. What is the source of control signals?

		<u>Questions</u>
205.1.1	Lube Oil system [ref. a, ch. 9; ref. c]	A
.2	Lube oil pump [ref. a, ch. 8; ref. c]	A B C E F G
.3	Lube oil strainer/filter [ref. a, ch. 8]	A B D E F G
.4	Lube oil cooler [ref. a, ch. 8; ref. c]	A B E F G
.5	Dipstick [ref. a, ch. 8; ref. c]	A B E
.6	Flexible hoses [ref. a, ch. 8]	A B F G
.7	Relief valve [ref. a, ch. 8; ref. c]	A B E F G
.8	Pressure gage [ref. a, ch. 8]	A B C E F G H
.9	Lube oil sump [ref. a, ch. 8; ref. c]	A B F

(Signature and Date)

205.2 PRINCIPLES OF OPERATION

- 205.2.1 How do the components work together to achieve the system's function? [ref. a, ch. 8]
- .2 Draw a diagram of this system. [ref. c]
- .3 What indications will you receive if the system is malfunctioning? [ref. a, ch. 8]

(Signature and Date)

DRAFT

205 LUBE OIL SYSTEM (CONT'D)

205.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. a, ch. 9]

- A. What is the normal operating value?
- B. Where are the parameters sensed or monitored?
- C. What is the physical location of the indicators?
- D. What is the alarm set point?

205.3.1 Oil pressure

Questions

A B C D

(Signature and Date)

205.4 SYSTEM INTERFACE

205.4.1 How do the following outside influences affect the operation of this system:
[ref. a, ch. 8]

- a. Loss of jacket water
- b. Loss of raw water
- c. Diluted lubricating oil

.2 How does this system interface with the Jacket Water Cooling system? [ref. a, ch. 8]

(Signature and Date)

205.5 SAFETY PRECAUTIONS

205.5.1 What safety precautions must be observed when operating this system?
[ref. b, ch. 10]

(Signature and Date)

206 JACKET WATER SYSTEM

References:

- [a] NAVEDTRA 10539, Engineman 3
 - [b] Boat Information Book (BIB)
 - [c] OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
 - [d] Manufacturer's Technical Manual
-

206.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the modes of operation or control?
- E. What are the safety/protective devices for this component/component part?
- F. What protection is provided by this component/component part?
- G. What are the probable indications if this component fails?
- H. What is the effect on system operation if this component fails?
- I. What is the function of each position?

- 206.1.1 Jacket Water system [ref. a, ch. 7; ref. d]
- .2 Jacket water pump [ref. a, ch. 7]
- .3 Expansion tank [ref. a, ch. 7; ref. d]
- .4 Heat exchangers [ref. a, ch. 7]
- .5 Piping system [ref. a, ch. 7]
- .6 Thermostat [ref. a, ch. 7; ref. d]
- .7 Temperature gage [ref. a, ch. 7]

Questions

- A
- A B C F G H
- A B F H
- A B F G H
- A B F G H
- A B C D E F G H I
- A B C F G H

(Signature and Date)

206.2 PRINCIPLES OF OPERATION

- 206.2.1 How do the components work together to achieve the system's function? [ref. a, ch. 7]
- .2 Draw a diagram of this system. [ref. d]
- .3 What indications will you receive if the system is malfunctioning? [ref. d]

(Signature and Date)

DRAFT

206 JACKET WATER SYSTEM (CONT'D)

206.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [refs. b, d]

- A. What is the normal operating value?
- B. Where are the parameters sensed or monitored?
- C. What is the physical location of the indicators?
- D. What is the alarm set point?

Questions

- 206.3.1 Cooling water temperature
- 2. Expansion tank water level

A B C D
A B C D

(Signature and Date)

206.4 SYSTEM INTERFACE

206.4.1 How do the following outside influences affect the operation of this system:

- a. Loss of raw water [ref. b]
- b. Variation in engine rpm [ref. d]

.2 How does this system interface with the following: [ref. d]

- a. Lube Oil system
- b. Raw Water system

(Signature and Date)

206.5 SAFETY PRECAUTIONS

206.5.1 What safety precautions must be observed when treating jacket water?
[ref. c, ch. 13]

(Signature and Date)

207 RAW WATER SYSTEM

References:

- [a] NAVEDTRA 10539, Engineman 3
 - [b] Manufacturer's Technical Manual
 - [c] Boat Information Book (BIB)
-

207.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the modes of operation or control?
- E. What protection is provided by this component/component part?
- F. What are the probable indications if this component fails?
- G. What is the effect on system operation if this component fails?
- H. What is the function of each position?

- 207.1.1 Raw Water system [ref. a, ch. 7; ref. b]
- .2 Sea cock [ref. a, ch. 7]
- .3 Sea chest [ref. a, ch. 7]
- .4 Duplex/simplex strainer [ref. b]
- .5 Raw water pump [ref. a, ch. 7]
- .6 Heat exchanger [ref. b]
- .7 Zincs [ref. b]
- .8 Raw water stop valve [ref. a, ch. 7]

Questions

- A
- A B E G H
- A B E F G
- A B D E F G H
- A B C D E F G
- A B E F G
- A B
- A B H

(Signature and Date)

207.2 PRINCIPLES OF OPERATION

- 207.2.1 How do the components work together to achieve the system's function? [ref. b]
- .2 Draw a diagram of this system. [refs. b, c]
- .3 What indications will you receive if the system is malfunctioning? [ref. b]

(Signature and Date)

DRAFT

207 RAW WATER SYSTEM (CONT'D)

207.3 PARAMETERS/OPERATING LIMITS – None to be discussed.

207.4 SYSTEM INTERFACE

207.4.1 How do variations in engine rpm affect the operation of this system? [ref. b]

.2 How does this system interface with the following:

- a. Jacket Water Cooling system [ref. a, ch. 7]
- b. Bilge Water Priming system [ref. c]

(Signature and Date)

207.5 SAFETY PRECAUTIONS

207.5.1 What safety precautions must be observed when operating this system?
[ref. a, ch. 7]

(Signature and Date)

208 STARTING SYSTEM

References:

- [a] NAVEDTRA 10539, Engineman 3
 - [b] Boat Information Book (BIB)
 - [c] Manufacturer's Technical Manual
-

208.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the modes of operation or control?
- E. What are the safety/protective devices for this component/component part?
- F. What protection is provided by this component/component part?
- G. What are the probable indications if this component fails?
- H. What is the effect on system operation if this component fails?

- 208.1.1 Starting system [ref. a, ch. 10; ref. c]
- .2 Starter [ref. a, ch. 10]
- .3 Battery [ref. a, ch. 10]
- .4 Starter solenoid [ref. a, ch. 10]
- .5 Starter switch [ref. a, ch. 10]
- .6 Cold weather starting device [ref. a, ch. 10]

Questions

A
A B C D G H
A B C F G H
A B C E G H
A B C D G H
A B C G

(Signature and Date)

208.2 PRINCIPLES OF OPERATION

- 208.2.1 How do the components work together to achieve the system's function?
[ref. a, ch. 10; ref. c]
- .2 What is the sequence of component involvement to initiate: [refs. b, c]
 - a. Lighting off
 - b. Securing
- .3 What indications will you receive if the system is malfunctioning? [refs. b, c]

(Signature and Date)

DRAFT

208 STARTING SYSTEM (CONT'D)

208.3 PARAMETERS/OPERATING LIMITS

208.3.1 What is the normal operating value of starting current? [ref. a, ch. 10; ref. c]

(Signature and Date)

208.4 SYSTEM INTERFACE

208.4.1 How do the following outside influences affect the operation of this system:

- a. Loss of electrical power [refs. b, c]
- b. Cold weather [ref. a, ch. 10]

.2 How does this system interface with the main propulsion diesel engine?
[ref. a, ch. 10]

(Signature and Date)

208.5 SAFETY PRECAUTIONS

208.5.1 What safety precautions must be observed when operating this system?
[ref. a, ch. 10]

(Signature and Date)

209 ELECTRICAL SYSTEM

References:

- [a] NAVEDTRA 10539, Engineman 3
 - [b] Manufacturer's Technical Manual
 - [c] Boat Information Book (BIB)
 - [d] OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
-

209.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the modes of operation or control?
- E. What protection is provided by this component/component part?
- F. What are the probable indications if this component fails?
- G. What is the effect on system operation if this component fails?
- H. What is the function of each position?

- 209.1.1 Electrical system [ref. a, ch. 10; ref. b]
- .2 Alternator/generator [ref. a, ch. 10; ref. b]
- .3 Voltage regulator [ref. b]
- .4 Batteries [ref. a, ch. 10]
- .5 dc power panel [ref. c]

Questions

A
A B C E F G
A B E F G
A B F G
A B C D E F G H

(Signature and Date)

209.2 PRINCIPLES OF OPERATION

- 209.2.1 How do the components work together to achieve the system's function?
[ref. a, chs. 7, 10; ref. c; ref. d, ch. 9]
- .2 What indications will you receive if the system is malfunctioning? [refs. b, c]

(Signature and Date)

DRAFT

209 ELECTRICAL SYSTEM (CONT'D)

209.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [refs. b, c]

- A. What is the normal operating value?
- B. Where are the parameters sensed or monitored?

Questions

A B

209.3.1 Alternator/generator

(Signature and Date)

209.4 SYSTEM INTERFACE – None to be discussed.

209.5 SAFETY PRECAUTIONS

209.5.1 What special safety precautions apply to charging batteries? [ref. d, ch. 9]

(Signature and Date)

210 INSTRUMENT PANEL AND STEERING SYSTEM

References:

[a] Boat Information Book (BIB)

210.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the modes of operation or control?
- E. What are the safety/protective devices for this component/component part?
- F. What protection is provided by this component/component part?
- G. What are the probable indications if this component fails?
- H. What is the effect on system operation if this component fails?
- I. What is the function of each position?

210.1.1 Instrument Panel and Steering system

- .2 Tachometer
- .3 Engine oil pressure gage
- .4 Ammeter
- .5 Drive oil pressure gage
- .6 Water temperature gage
- .7 Shifting lever/throttle
- .8 Engine shutdown control
- .9 Emergency engine shutdown control
- .10 Electrical and mechanical horns
- .11 Starter switch
- .12 Instrument light switches
- .13 Helm and steering cable
- .14 Tiller/emergency steering
- .15 Windshield wiper switch
- .16 Hydraulic steering pump

Questions

- A
- A B C F G H
- A B C F G H
- A B C F G H
- A B C F G H
- A B C F G H
- A B D E F G H I
- A B C D F G H
- A B D F H
- A B C G H
- A B C D G H
- A B C D G H I
- A B D G H I
- A B D G H I
- A B D G H I
- A B C G H

 (Signature and Date)

DRAFT

210 INSTRUMENT PANEL AND STEERING SYSTEM (CONT'D)

210.2 PRINCIPLES OF OPERATION

- 210.2.1 How do the components work together to achieve the system's function?
- .2 What indications will you receive if the system is malfunctioning?

(Signature and Date)

210.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

- A. What is the normal operating value?
- B. Where are the parameters sensed or monitored?
- C. What is the physical location of the indicators?
- D. What is the alarm set point?

- 210.3.1 rpm
- .2 Engine oil pressure
- .3 Amperage

Questions

A B C D
A B C D
A B C D

(Signature and Date)

210.4 SYSTEM INTERFACE – None to be discussed.

210.5 SAFETY PRECAUTIONS

- 210.5.1 What special safety precautions apply to:
- a. Starting engines
 - b. Duration of time starter is activated

(Signature and Date)

211 DRAINAGE SYSTEM

References:

- [a] Boat Information Book (BIB)
 - [b] OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
-

211.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each: [ref. a]

- A. What is its function?
- B. Where is it located?
- C. What are the sources of power?
- D. What are the safety/protective devices for this component/component part?
- E. What protection is provided by this component/component part?
- F. What are the probable indications if this component fails?
- G. What is the effect on system operation if this component fails?
- H. What is the function of each position?

- 211.1.1 Drainage system
- .2 Bilge pump
- .3 Actuating clutch
- .4 Suction piping
- .5 Check valves
- .6 Foot valves
- .7 Overboard discharge valve
- .8 Hand bilge pump

Questions

- A
- A B C D E F G
- A B F G H
- A B F G
- A B E F G
- A B E F G
- A B F G
- A B F G

(Signature and Date)

211.2 PRINCIPLES OF OPERATION

- 211.2.1 How do the components work together to achieve the system's function? [ref. a]
- .2 Draw a diagram of this system. [ref. a]

DRAFT

211 DRAINAGE SYSTEM (CONT'D)

211.2.3 What is the sequence of component involvement to: [ref. a]

- a. Actuate the system
- b. Secure the system

.4 What indications will you receive if the system is malfunctioning? [ref. a]

(Signature and Date)

211.3 PARAMETERS/OPERATING LIMITS – None to be discussed.

211.4 SYSTEM INTERFACE

211.4.1 How does loss of the diesel engine affect the operation of this system? [ref. a]

.2 How does this system interface with the diesel engine? [ref. a]

(Signature and Date)

211.5 SAFETY PRECAUTIONS

211.5.1 What safety precautions must be observed when operating this system?
[ref. b, chs. C9, C23]

(Signature and Date)

DRAFT

300 INTRODUCTION TO WATCHSTATIONS

300.1 INTRODUCTION

The Watchstation section of your PQS is where you get a chance to demonstrate to your Qualifier that you can put the knowledge you have gained in the previous sections to use. It allows you to practice the tasks required for your watchstation and to handle abnormal conditions and emergencies. Before starting your assigned tasks, you must complete the prerequisites that pertain to the performance of that particular task. Satisfactory completion of all prerequisites is required prior to achievement of final watchstation qualification.

300.2 FORMAT

Each watchstation in this section contains:

- A FINAL QUALIFICATION PAGE, which is used to obtain the required signatures for approval and recording of Final Qualification.
- PREREQUISITES, which are items that must be certified completed before you can begin qualification for a particular watchstation. Prerequisites may include schools, watchstation qualifications from other PQS books, and fundamentals, systems, or watchstation qualifications from this book. Prior to signing off each prerequisite line item, the Qualifier must verify completion from existing records. Record the date of actual completion, not the sign-off date.
- WATCHSTATION Performance, which is the practical factors portion of your qualification. The performance is broken down as follows:

- Tasks (routine operating tasks that are performed frequently)
- Infrequent Tasks
- Abnormal Conditions
- Emergencies
- Training Watches

If there are multiple watchstations, a QUALIFICATION PROGRESS SUMMARY will appear at the end of the Standard.

DRAFT

300 INTRODUCTION TO WATCHSTATIONS (CONT'D)

300.3 OPERATING PROCEDURES

The PQS deliberately makes no attempt to specify the procedures to be used to complete a task or control or correct a casualty. The only proper sources of this information are the technical manuals, Engineering Operational Sequencing System (EOSS), Naval Air Training and Operating Procedures Standardization (NATOPS) or other policy-making documents prepared for a specific installation or a piece of equipment. Additionally, the level of accuracy required of a trainee may vary from school to school, ship to ship, and squadron to squadron based upon such factors as mission requirements. Thus, proficiency may be confirmed only through demonstrated performance at a level of competency sufficient to satisfy the Commanding Officer.

300.4 DISCUSSION ITEMS

Though actual performance of evolutions is always preferable to observation or discussion, some items listed in each watchstation may be too hazardous or time consuming to perform or simulate. Therefore, you may be required to discuss such items with your Qualifier.

300.5 NUMBERING

Each Final Qualification is assigned both a watchstation number and a NAVEDTRA Final Qualification number. The NAVEDTRA number is to be used for recording qualifications in service and training records.

300.6 HOW TO COMPLETE

After completing the required prerequisites applicable to a particular task, you may perform the task under the supervision of a qualified watchstander. If you satisfactorily perform the task and can explain each step, your Qualifier will sign you off for that task. After all line items have been completed, your Qualifier will verify Final Qualification by signing and dating the Final Qualification pages.

DRAFT

FINAL QUALIFICATION

NAVEDTRA 43152-E

301 BOW HOOK AND STERN HOOK

NAME _____ RATE/RANK _____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified BOW HOOK AND STERN HOOK (NAVEDTRA 43152-E).

RECOMMENDED _____ DATE _____
Supervisor

RECOMMENDED _____ DATE _____
Division Officer

RECOMMENDED _____ DATE _____
Department Head

QUALIFIED _____ DATE _____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY _____ DATE _____

301 BOW HOOK AND STERN HOOK

Estimated completion time: 8 weeks

301.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING PQS ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT MUST BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

301.1.1 OTHER QUALIFICATIONS:

Second Class Swimmer Qualified

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

101 Safety Precautions

Completed _____ 6% of Watchstation
(Qualifier and Date)

102 Small Boat/Rigid Hull Inflatable Boat (RHIB)

Completed _____ 6% of Watchstation
(Qualifier and Date)

103 First Aid

Completed _____ 4% of Watchstation
(Qualifier and Date)

106 Boat Etiquette

Completed _____ 4% of Watchstation
(Qualifier and Date)

.3 SYSTEMS FROM THIS PQS:

201 Small Boat Structure

Completed _____ 6% of Watchstation
(Qualifier and Date)

DRAFT

301 BOW HOOK AND STERN HOOK (CONT'D)

301.2 TASKS

For the tasks listed below:

- A. What are the steps of this procedure?
- B. What are the reasons for each step?
- C. What control/coordination is required?
- D. What safety precautions must be observed?
- E. Satisfactorily perform this task.

301.2.1 Demonstrate proper donning of life preserver

Questions

A B D E

(Signature and Date)

.2 Assist coxswain in preparing boat for use

A B C D E

(Signature and Date)

.3 Assist coxswain in preparing boat for hoisting/lowering

A B C D E

(Signature and Date)

.4 Unhook/hook up boat falls/slings, sea painter, and steadying lines in proper sequence

A B C D E

(Signature and Date)

.5 Prepare boat for going alongside/getting underway to/from:

a. Accommodation ladder (2 times)

A B C D E

(Signature and Date)

(Signature and Date)

b. Boat landing

A B D E

(Signature and Date)

c. Pilot/Jacob's ladder

A B D E

(Signature and Date)

DRAFT

301 BOW HOOK AND STERN HOOK (CONT'D)

301.2.6 Assist coxswain in loading/unloading of cargo/personnel **Questions**
A B C D E

(Signature and Date)

.7 Serve as lookout (2 times) A B C D E

(Signature and Date)

(Signature and Date)

.8 Assist in securing boat for sea (2 times) A B C D E

(Signature and Date)

(Signature and Date)

COMPLETED .2 AREA COMPRISES 35% OF WATCHSTATION.

301.3 INFREQUENT TASKS

For the infrequent tasks listed below:

- A. What are the steps of this procedure?
- B. What are the reasons for each step?
- C. What control/coordination is required?
- D. What means of communications may be used?
- E. What safety precautions must be observed?
- F. Satisfactorily perform or simulate this infrequent task.

301.3.1 Make boat fast to boat boom **Questions**
A B E F

(Signature and Date)

.2 Rig boat for towing A B C D E F

(Signature and Date)

DRAFT

301 BOW HOOK AND STERN HOOK (CONT'D)

301.3.3 Rig boat for being towed **Questions**
A B C D E F

(Signature and Date)

.4 Rig and use emergency steering A B C D E F

(Signature and Date)

.5 Prepare boat for anchoring A B C D E F

(Signature and Date)

.6 Assist mooring buoy party A B C D E F

(Signature and Date)

COMPLETED .3 AREA COMPRISES 14% OF WATCHSTATION.

301.4 ABNORMAL CONDITIONS– None to be discussed.

301.5 EMERGENCIES

For the emergencies listed below:

- A. What indications and alarms are received?
- B. What immediate action is required?
- C. What are the probable causes?
- D. What operating limitations are imposed?
- E. How does this emergency affect other operations/equipment/watchstations?
- F. What follow-up action is required?
- G. Satisfactorily perform or simulate the immediate action for this emergency.

301.5.1 Man overboard **Questions**
A B C D E F G

(Signature and Date)

.2 Fire A B C D E F G

(Signature and Date)

DRAFT

301 BOW HOOK AND STERN HOOK (CONT'D)

301.5.3 Flooding Questions
A B C D E F G

(Signature and Date)

.4 Capsized boat A B C D E F G

(Signature and Date)

.5 Personnel injury A B D E F G

(Signature and Date)

COMPLETED .5 AREA COMPRISES 10% OF WATCHSTATION.

301.6 WATCHES

301.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Bow Hook/Stern Hook (3 times)

(Signature and Date)

(Signature and Date)

(Signature and Date)

COMPLETED .6 AREA COMPRISES 15% OF WATCHSTATION.

301.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

301.7.1 EXAMINATIONS Pass a written examination

(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

(Signature and Date)

DRAFT

FINAL QUALIFICATION

NAVEDTRA 43152-E

302 SMALL BOAT ENGINEER

NAME _____ RATE/RANK _____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SMALL BOAT ENGINEER (NAVEDTRA 43152-E).

RECOMMENDED _____ DATE _____
Supervisor

RECOMMENDED _____ DATE _____
Division Officer

RECOMMENDED _____ DATE _____
Department Head

QUALIFIED _____ DATE _____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY _____ DATE _____

302 SMALL BOAT ENGINEER

Estimated completion time: 16 weeks

302.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING PQS ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT MUST BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

302.1.1 WATCHSTATIONS FROM THIS PQS:

301 Bow Hook and Stern Hook

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

108 Diesel Engine

Completed _____ 2% of Watchstation
(Qualifier and Date)

.3 SYSTEMS FROM THIS PQS:

202 Main Propulsion Gear Assembly

Completed _____ 2% of Watchstation
(Qualifier and Date)

203 Intake and Exhaust

Completed _____ 1% of Watchstation
(Qualifier and Date)

204 Fuel Oil

Completed _____ 1% of Watchstation
(Qualifier and Date)

205 Lube Oil

Completed _____ 1% of Watchstation
(Qualifier and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

302.1.3 206 Jacket Water

Completed _____ 1% of Watchstation
(Qualifier and Date)

207 Raw Water

Completed _____ 1% of Watchstation
(Qualifier and Date)

208 Starting

Completed _____ 1% of Watchstation
(Qualifier and Date)

209 Electrical

Completed _____ 1% of Watchstation
(Qualifier and Date)

210 Instrument Panel and Steering

Completed _____ 1% of Watchstation
(Qualifier and Date)

211 Drainage

Completed _____ 1% of Watchstation
(Qualifier and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

302.2 TASKS

For the tasks listed below:

- A. What are the steps of this procedure?
- B. What are the reasons for each step?
- C. What control/coordination is required?
- D. What means of communications are used?
- E. What safety precautions must be observed?
- F. What parameters/operating limits must be monitored?
- G. Satisfactorily perform this task.

Questions

302.2.1 Locate and identify each of the following:

- | | |
|------------------------------|---|
| a. Blower | G |
| b. Turbocharger | G |
| c. Intercooler/aftercooler | G |
| d. Heat exchanger | G |
| e. Jacket water pump | G |
| f. Raw water pump | G |
| g. Fuel injector | G |
| h. Fuel pump | G |
| i. Fuel water separator | G |
| j. Camshaft | G |
| k. Crankshaft | G |
| l. Flywheel | G |
| m. Valve actuating mechanism | G |
| n. Pistons | G |
| o. Cylinder liner | G |
| p. Cylinder head | G |
| q. Intake/exhaust valves | G |
| r. Valve cover | G |
| s. Expansion tank | G |
| t. Alternator | G |

(Signature and Date)

.2 Check Lube Oil/Cooling systems for proper levels

A B E F G

(Signature and Date)

.3 Check Battery and Electrical systems (visual inspection)

A B E F G

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

302.2.4 Line up and secure Fuel systems (2 times)

A B E F G

(Signature and Date)

(Signature and Date)

.5 Line up and secure Raw Water Cooling systems (2 times)

A B D E F G

(Signature and Date)

(Signature and Date)

.6 Fill and sound fuel oil service tanks

A B E F G

(Signature and Date)

.7 Check Cold Weather Starting system

A B E F G

(Signature and Date)

.8 Line up, start, operate, and secure diesel engines (3 times)

A B C D E F G

(Signature and Date)

(Signature and Date)

(Signature and Date)

.9 Check Bilge Pumping system

A B C D E F G

(Signature and Date)

.10 Inspect and operate steering and engine control equipment

A B C D E F G

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

302.2.11 Check small boat engineering plan for structural discrepancies (2 times) A B E F G

(Signature and Date)

(Signature and Date)

a. Engine mounts

A B E F G

(Signature and Date)

b. Shaft coupling

A B E F G

(Signature and Date)

c. Transmission output coupling

A B E F G

(Signature and Date)

d. Stuffing box

A B E F G

(Signature and Date)

e. Shafts, cutlass bearings, and propellers

A B E F G

(Signature and Date)

.12 Fill out and properly submit Daily Boat Report (2 times)

A B E F G

(Signature and Date)

(Signature and Date)

.13 Maintain engine operating logs

A B E F G

(Signature and Date)

COMPLETED .2 AREA COMPRISES 17% OF WATCHSTATION.

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

302.3 INFREQUENT TASKS

For the infrequent tasks listed below:

- A. What are the steps of this procedure?
- B. What are the reasons for each step?
- C. What control/coordination is required?
- D. What means of communications are used?
- E. What safety precautions must be observed?
- F. Satisfactorily perform or simulate this infrequent task.

302.3.1 Steer by emergency tiller (2 times)

Questions
A B C D E F

(Signature and Date)

(Signature and Date)

.2 Manually control engine (2 times)

A B C D E F

(Signature and Date)

(Signature and Date)

.3 Manually control transmission (2 times)

A B C D E F

(Signature and Date)

(Signature and Date)

COMPLETED .3 AREA COMPRISES 6% OF WATCHSTATION.

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

302.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

- A. What indications and alarms are received?
- B. What immediate action is required?
- C. What are the probable causes?
- D. What operating limitations are imposed?
- E. What emergencies or malfunctions may occur if immediate action is not taken?
- F. How does this condition affect other operations/equipment/watchstations?
- G. What follow-up action is required?
- H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

302.4.1 Engine fails to start (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.2 High temperatures:

a. Freshwater (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

b. Lube oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

302.4.3 Low temperatures:

- a. Freshwater (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

- b. Lube oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.4 High pressure:

- a. Lube oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

- b. Transmission drive oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

- c. Fuel oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

302.4.5 Low pressure:

- a. Lube oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

- b. Transmission drive oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

- c. Fuel oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.6 Fluctuating pressure:

- a. Lube oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

- b. Transmission drive oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

A B C D E F G H

302.4.6 c. Fuel oil (2 times)

(Signature and Date)

(Signature and Date)

.7 Excessive exhaust temperature (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.8 Clogged strainer/filters:

a. Fuel oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

b. Lube oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

c. Cooling water (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

d. Air (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

302.4.9 Contaminated system:

a. Lube oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

b. Fuel oil (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

c. Jacket water (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.10 High/low electrical output (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.11 Engine drive train vibration (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

302.4.12 Excessive shaft vibration (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.13 Abnormal engine sounds (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.14 Excessive exhaust smoke:

a. White (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

b. Blue (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

c. Black/gray (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.15 Loose/worn drive belts

A B C D E F G H

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

302.4.16 Excessive oil/water in bilges (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.17 Loss of bilge pump

A B C D E F G H

(Signature and Date)

.18 Loss of blower (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

.19 Seized engine (2 times)

A B C D E F G H

(Signature and Date)

(Signature and Date)

COMPLETED .4 AREA COMPRISES 34% OF WATCHSTATION.

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

302.5 EMERGENCIES

For the emergencies listed below:

- A. What indications and alarms are received?
- B. What immediate action is required?
- C. What are the probable causes?
- D. What operating limitations are imposed?
- E. What other emergencies or malfunctions may occur if immediate action is not taken?
- F. How does this emergency affect other operations/equipment/watchstations?
- G. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

302.5.1 Overspeed engine loss of:

- a. Propellers A B C D E F G

(Signature and Date)

- b. Shafts A B C D E F G

(Signature and Date)

- c. Steering (2 times) A B C D E F G

(Signature and Date)

(Signature and Date)

- d. Transmission drive oil pressure (2 times) A B C D E F G

(Signature and Date)

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions

A B C D E F G

302.5.1 e. Electrical/Navigation system (2 times)

(Signature and Date)

(Signature and Date)

f. Engine lube oil pressure (2 times)

A B C D E F G

(Signature and Date)

(Signature and Date)

g. Turbocharger

A B C D E F G

(Signature and Date)

h. Fresh/raw water

A B C D E F G

(Signature and Date)

.2 Broken fuel line

A B C D E F G

(Signature and Date)

.3 Fire (2 times)

A B C D E F G

(Signature and Date)

(Signature and Date)

.4 Flooding (2 times)

A B C D E F G

(Signature and Date)

(Signature and Date)

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

Questions
A B C D E F G

302.5.5 Crankcase explosion

(Signature and Date)

.6 Broken intake/exhaust valve (2 times)

A B C D E F G

(Signature and Date)

(Signature and Date)

.7 Broken piston/connecting rod (2 times)

A B C D E F G

(Signature and Date)

(Signature and Date)

COMPLETED .5 AREA COMPRISES 16% OF WATCHSTATION.

302.6 WATCHES

302.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Small Boat Engineer (3 times)

(Signature and Date)

(Signature and Date)

(Signature and Date)

COMPLETED .6 AREA COMPRISES 14% OF WATCHSTATION.

DRAFT

302 SMALL BOAT ENGINEER (CONT'D)

302.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

302.7.1 EXAMINATIONS Pass a written examination

(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

(Signature and Date)

DRAFT

FINAL QUALIFICATION

NAVEDTRA 43152-E

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN

NAME _____ RATE/RANK _____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN (NAVEDTRA 43152-E).

RECOMMENDED _____ DATE _____
Supervisor

RECOMMENDED _____ DATE _____
Division Officer

RECOMMENDED _____ DATE _____
Department Head

QUALIFIED _____ DATE _____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY _____ DATE _____

DRAFT

303

SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN

WATCHSTATION 303

Estimated completion time: 16 weeks

303.1 PREREQUISITES

**FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING PQS ITEMS
SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT
MUST BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.**

303.1.1 SCHOOLS:

Expeditionary Warfare Training Group (EWTGPAC/LANT) RHIB Coxswain
(K-062-0625-A) (RECOMMENDED)

Completed _____
(Qualifier and Date)

Basic Boat Coxswain (K-062-0634-A) (RECOMMENDED)

Completed _____
(Qualifier and Date)

.2 OTHER QUALIFICATIONS:

Falant Color Vision Test

Completed _____
(Qualifier and Date)

.3 WATCHSTATIONS FROM THIS PQS:

301 Bow Hook and Stern Hook

Completed _____
(Qualifier and Date)

DRAFT

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN (CONT'D)

303.1.4 FUNDAMENTALS FROM THIS PQS:

104 Rules of the Road

Completed _____ 3% of Watchstation
(Qualifier and Date)

105 Navigation

Completed _____ 3% of Watchstation
(Qualifier and Date)

107 Communications

Completed _____ 3% of Watchstation
(Qualifier and Date)

109 Start-Up and Shutdown

Completed _____ 3% of Watchstation
(Qualifier and Date)

.5 SYSTEMS FROM THIS PQS:

208 Starting

Completed _____ 3% of Watchstation
(Qualifier and Date)

210 Instrument Panel and Steering

Completed _____ 3% of Watchstation
(Qualifier and Date)

DRAFT

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN (CONT'D)

303.2 TASKS

For the tasks listed below:

- A. What are the steps of this procedure?
- B. What are the reasons for each step?
- C. What control/coordination is required?
- D. What means of communications are used?
- E. What safety precautions must be observed?
- F. What parameters/operating limits must be monitored?
- G. Satisfactorily perform this task.

		<u>Questions</u> A B C F G
303.2.1	Supervise completion and submission of Daily Boat Report	
	_____ (Signature and Date)	
.2	Prepare small boat for hoisting and lowering	A B C D E F G
	_____ (Signature and Date)	
.3	Supervise unhooking/hooking up boat falls/slides/sea painter/ steadying lines	A B C D E G
	_____ (Signature and Date)	
.4	Convert true course to compass course	A B G
	_____ (Signature and Date)	
.5	Maintain and log compass course to and from destination using navigational aids	A B C G
	_____ (Signature and Date)	

DRAFT

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN (CONT'D)

Questions

303.2.6 Make port/starboard landings to:

- a. Accommodation ladders (2 times)

A B C D E G

(Signature and Date)

(Signature and Date)

- b. Boat landing (2 times)

A B C D E G

(Signature and Date)

(Signature and Date)

- c. Pilot/Jacob's ladder (2 times)

A B C D E G

(Signature and Date)

(Signature and Date)

- .7 Supervise loading and unloading of cargo/personnel

A B C D E F G

(Signature and Date)

- .8 Render honors

A B D G

(Signature and Date)

- .9 Light-off and secure boat engine

A B C D E F G

(Signature and Date)

COMPLETED .2 AREA COMPRISES 25% OF WATCHSTATION.

DRAFT

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN (CONT'D)

303.3 INFREQUENT TASKS

For the infrequent tasks listed below:

- A. What are the steps of this procedure?
- B. What are the reasons for each step?
- C. What control/coordination is required?
- D. What means of communications are used?
- E. What safety precautions must be observed?
- F. Satisfactorily perform or simulate this infrequent task.

		<u>Questions</u>
303.3.1	Use emergency steering	A B C E F
	_____ (Signature and Date)	
.2	Navigate in low/reduced visibility	A B C D E F
	_____ (Signature and Date)	
.3	Deploy/recover swimmer	A B C D E F
	_____ (Signature and Date)	
.4	Conduct tow/be towed operation	A B C D E F
	_____ (Signature and Date)	
.5	Serve as coxswain for mooring to a buoy	A B C D E F
	_____ (Signature and Date)	
.6	Use/identify distress signals	A B D E F
	_____ (Signature and Date)	

COMPLETED .3 AREA COMPRISES 15% OF WATCHSTATION.

DRAFT

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN (CONT'D)

303.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

- A. What indications and alarms are received?
- B. What immediate action is required?
- C. What are the probable causes?
- D. What operating limitations are imposed?
- E. How does this condition affect other operations/equipment/watchstations?
- F. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

303.4.1 Low oil pressure

Questions
A B C D E F

(Signature and Date)

.2 High water temperature

A B C D E F

(Signature and Date)

.3 Loss of communication

A B C D E F

(Signature and Date)

COMPLETED .4 AREA COMPRISES 8% OF WATCHSTATION.

303.5 EMERGENCIES

For the emergencies listed below:

- A. What indications and alarms are received?
- B. What immediate action is required?
- C. What are the probable causes?
- D. What operating limitations are imposed?
- E. How does this emergency affect other operations/equipment/watchstations?
- F. Satisfactorily perform or simulate the immediate action for this emergency.

303.5.1 Loss of steering

Questions
A B C D E F

(Signature and Date)

DRAFT

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN (CONT'D)

303.5.2 Loss of engine control A B C D E F

(Signature and Date)

.3 Man overboard A B C D E F

(Signature and Date)

.4 Fire A B C D E F

(Signature and Date)

.5 Flooding A B C D E F

(Signature and Date)

.6 Collision A B C D E F

(Signature and Date)

.7 Running aground A B C D E F

(Signature and Date)

.8 Loss of navigational lights A B C D E F

(Signature and Date)

.9 Personnel injuries A B C D E F

(Signature and Date)

.10 Fuel oil leak A B C D E F

(Signature and Date)

COMPLETED .5 AREA COMPRISES 16% OF WATCHSTATION.

DRAFT

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN (CONT'D)

303.6 WATCHES

303.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Coxswain (3 times)

(Signature and Date)

(Signature and Date)

(Signature and Date)

COMPLETED .6 AREA COMPRISES 18% OF WATCHSTATION.

303.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

303.7.1 EXAMINATIONS Pass a written examination

(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

(Signature and Date)

DRAFT

FINAL QUALIFICATION

NAVEDTRA 43152-E

304 SMALL BOAT OFFICER

NAME _____ RATE/RANK _____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SMALL BOAT OFFICER (NAVEDTRA 43152-E).

RECOMMENDED _____ DATE _____
Supervisor

RECOMMENDED _____ DATE _____
Division Officer

RECOMMENDED _____ DATE _____
Department Head

QUALIFIED _____ DATE _____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY _____ DATE _____

304 SMALL BOAT OFFICER

Estimated completion time: 8 weeks

304.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING PQS ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT MUST BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

304.1.1 OTHER QUALIFICATIONS:

Second Class Swimmer Qualified

Completed _____
(Qualifier and Date)

Falant Color Vision Test

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

101 Safety Precautions

Completed _____ 3% of Watchstation
(Qualifier and Date)

102 Small Boat/Rigid Hull Inflatable Boat (RHIB)

Completed _____ 3% of Watchstation
(Qualifier and Date)

103 First Aid

Completed _____ 3% of Watchstation
(Qualifier and Date)

104 Rules of the Road

Completed _____ 3% of Watchstation
(Qualifier and Date)

DRAFT

304 SMALL BOAT OFFICER (CONT'D)

304.1.2 105 Navigation

Completed _____ 3% of Watchstation
(Qualifier and Date)

106 Boat Etiquette

Completed _____ 3% of Watchstation
(Qualifier and Date)

107 Communications

Completed _____ 3% of Watchstation
(Qualifier and Date)

109 Start-Up and Shutdown

Completed _____ 3% of Watchstation
(Qualifier and Date)

.3 SYSTEMS FROM THIS PQS:

201 Small Boat Structure

Completed _____ 3% of Watchstation
(Qualifier and Date)

208 Starting

Completed _____ 3% of Watchstation
(Qualifier and Date)

210 Instrument Panel and Steering

Completed _____ 3% of Watchstation
(Qualifier and Date)

DRAFT

304 SMALL BOAT OFFICER (CONT'D)

304.2 TASKS

For the tasks listed below:

- A. What are the steps of this procedure?
- B. What safety precautions must be observed?
- C. Satisfactorily perform this task.

Questions

304.2.1 Inspect and brief boat crew

B C

(Signature and Date)

.2 Review navigation chart for prescribed route

A B C

(Signature and Date)

.3 Ensure proper boat etiquette

C

a. Embarking/debarking

A B C

b. Rendering/receiving honors

A B C

c. Displaying of personal pennants/national ensign

A C

(Signature and Date)

.4 Ensure proper adherence to rules of the road

C

(Signature and Date)

.5 Identify senior officer onboard

A C

(Signature and Date)

.6 Ensure boat loading limits are not exceeded

A B C

(Signature and Date)

COMPLETED .2 AREA COMPRISES 14% OF WATCHSTATION.

DRAFT

304 SMALL BOAT OFFICER (CONT'D)

304.3 INFREQUENT TASKS

For the infrequent tasks listed below:

- A. What are the steps of this procedure?
- B. What control/coordination is required?
- C. What means of communications are used?
- D. What safety precautions must be observed?
- E. Satisfactorily perform or simulate this infrequent task.

304.3.1 Ensure safe deploying/recovering of swimmer

Questions
A B C D E

(Signature and Date)

.2 Navigate in low visibility

A B C D E

(Signature and Date)

.3 Assist in towing/being towed

A B C D E

(Signature and Date)

COMPLETED .3 AREA COMPRISES 10% OF WATCHSTATION.

DRAFT

304 SMALL BOAT OFFICER (CONT'D)

304.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

- A. What indications and alarms are received?
- B. What immediate action is required?
- C. What are the probable causes?
- D. What operating limitations are imposed?
- E. What emergencies or malfunctions may occur if immediate action is not taken?
- F. How does this condition affect other operations/equipment/watchstations?
- G. What follow-up action is required?
- H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

304.4.1 Low oil pressure A B C D E F G H

(Signature and Date)

.2 Loss of voice communication/alternate means of communication A B C D E F G H

(Signature and Date)

.3 High water temperature A B C D E F G H

(Signature and Date)

COMPLETED .4 AREA COMPRISES 10% OF WATCHSTATION.

DRAFT

304 SMALL BOAT OFFICER (CONT'D)

304.5 EMERGENCIES

For the emergencies listed below:

- A. What indications and alarms are received?
- B. What immediate action is required?
- C. What are the probable causes?
- D. What operating limitations are imposed?
- E. What other emergencies or malfunctions may occur if immediate action is not taken?
- F. How does this emergency affect other operations/equipment/watchstations?
- G. Satisfactorily perform or simulate the immediate action for this emergency.

		<u>Questions</u>
		A B C D E F G
304.5.1	Man overboard	

	(Signature and Date)	
.2	Fire	A B C D E F G

	(Signature and Date)	
.3	Flooding	A B C D E F G

	(Signature and Date)	
.4	Collision	A B C D E F G

	(Signature and Date)	
.5	Loss of navigational lights	A B C D E F G

	(Signature and Date)	
.6	Personnel injuries	A B C D E F G

	(Signature and Date)	

DRAFT

304 SMALL BOAT OFFICER (CONT'D)

Questions
A B C D E F G

304.5.7 Loss of engine control

(Signature and Date)

.8 Loss of steering

A B C D E F G

(Signature and Date)

.9 Running aground

A B C D E F G

(Signature and Date)

COMPLETED .5 AREA COMPRISES 16% OF WATCHSTATION.

304.6 WATCHES

304.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Small Boat Officer (3 times)

(Signature and Date)

(Signature and Date)

(Signature and Date)

COMPLETED .6 AREA COMPRISES 17% OF WATCHSTATION.

304.7 EXAMINATIONS

(OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

304.7.1 EXAMINATIONS

Pass a written examination

(Signature and Date)

.2 EXAMINATIONS

Pass an oral examination board

(Signature and Date)

DRAFT

NAVEDTRA 43152-E

QUALIFICATION PROGRESS SUMMARY FOR SMALL BOAT OPERATIONS

NAME _____ RATE/RANK _____

This qualification progress summary is used to track the progress of a trainee in the watchstations for this PQS and ensure awareness of remaining tasks. It should be kept by the individual or in the individual's training jacket and updated with an appropriate signature (Training Petty Officer, Division Officer, Senior Watch Officer, etc.) as watchstations are completed.

301 BOW HOOK AND STERN HOOK

Completed _____ Date _____
(Signature)

302 SMALL BOAT ENGINEER

Completed _____ Date _____
(Signature)

303 SMALL BOAT COXSWAIN/RIGID HULL INFLATABLE BOAT (RHIB) COXSWAIN

Completed _____ Date _____
(Signature)

304 SMALL BOAT OFFICER

Completed _____ Date _____
(Signature)

DRAFT

LIST OF REFERENCES USED IN THIS PQS

Boat Information Book (BIB)
COMDTINST M16672.2C, Navigation Rules-International Inland
Dutton's Navigation and Piloting, 14th Edition
Manufacturer's Technical Manual
Marine Rescue Consultants RHIB Operations Reference Manual
NAVEDTRA 10539, Engineman 3
NAVEDTRA 12016, Seaman
NAVEDTRA 12043, Basic Military Requirements (BMR)
NAVEDTRA 12100, Boatswain's Mate
NAVEDTRA 12104-A, Signalman
NAVEDTRA 12120, Quartermaster
NAVEDTRA 13119, Standard First Aid Course
NSTM S9086-CL-STM-010/CH-077, Personnel Protection Equipment
NSTM S9086-TX-STM-010/CH-583, Boats and Small Craft
NWP 3-50.1 (Rev. A), Naval Search and Rescue (SAR) Manual
OPNAVINST 3120.32C, Ships Standard Organization and Regulations Manual of the U. S. Navy (SORM)
OPNAVINST 3500.39, Operational Risk Management
OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
Ship's Information Book (SIB)
United States of America Nautical Chart Symbols Abbreviations and Terms, Chart No.1

DRAFT

Personal Qualification Standard Feedback Form

From _____ Date _____

Via _____ Date _____

Department Head

Activity _____

Mailing Address _____

Email Address _____ DSN _____

PQS Title _____ NAVEDTRA _____

Section Affected _____

Page Number(s) _____

For faster response, you may email your feedback to the PQS Development Group at: *n34.pqs@cnet.navy.mil*. Please include the above information so that we may better serve you.

Remarks/Recommendations (Use additional sheets if necessary):

DRAFT

(FOLD HERE)

DEPARTMENT OF THE NAVY

OFFICIAL BUSINESS

COMMANDING OFFICER
NETPDTC N34
6490 SAUFLEY FIELD ROAD
PENSACOLA FL 32509-5237

(FOLD HERE)